REMARKS

Response to rejection of claims 7, 9, and 37-40 under 35 U.S.C. § 103 based on Hoagland, Mortelmans, or Hopfe in view of Calhoun

In the Office Action mailed August 9, 2007, claims 7, 9, and 37-40 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hoagland et al. (U.S. Patent No. 5,455,103) (hereinafter "Hoagland"), Mortelmans (U.S. Patent No. 5,626,809) (hereinafter "Mortelmans") or Hopfe et al. (U.S. Patent No. 6,093,471) (hereinafter "Hopfe") in view of Calhoun et al. (U.S. Patent No. 5,888,650) (hereinafter "Calhoun"). There were no other rejections.

Applicant respectfully submits that the combined teachings of the cited references do not anticipate or render obvious the presently claimed invention because (1) there is no reason to alter the interlayers in Hoagland, Mortelmans, or Hopfe in view of the teachings of Calhoun, which relates to an adhesive and which does not relate to the deaeration of the adhesive therein; and (2) even if the teachings of the references were combined, a person having ordinary skill in the art would not arrive at the presently claimed invention.

The present claims recite an interlayer for a laminated glass which comprises a thermoplastic resin sheet provided with embossments comprising concave portions and convex portions on both sides thereof. The concave portions on at least one side have a trough-like geometry with a continual bottom while the convex portion on the same side have a plateau-forming top surface. In addition, fine concave and convex portions are provided on the plateau-forming top surface of the convex portion, and the interlayer is capable of contact bonding to a

glass sheet. Further, the thermoplastic resin sheet comprises a material selected from the group consisting of a plasticized polyvinyl acetal resin, a polyurethane resin, an ethylene-vinyl acetate resin, an ethylene-ethyl acrylate resin, and a plasticized vinyl chloride resin.

The present invention provides for improved deaeration properties (see, e.g., the paragraph bridging pages 73 and 74 of the present specification).

Applicant notes that, as set forth in the Office Action, Hoagland, Mortlemans, and Hopfe do not disclose the presently recited fine concave and convex portions provided on the plateau-forming top surface of the convex portion of the interlayers disclosed therein. Hoagland disclose an interlayer comprising polyvinyl butyral having a regular pattern of channels formed in each side which are angularly arranged with respect to each other, wherein the angle of intersection is at least 25 degrees. Mortelmans discloses that embossments are formed in parallel or crosswise in the interlayer. Hopfe discloses a thermoplastic sheet comprising plasticized polyvinyl butyral having a regular pattern of ridges and channels integrally formed in each side arranged at an angle of intersection with respect to each other of at least 25 degrees; the ridges taper to flattened V-shaped peaks having a tight radius of less than 0.0034 inch, and the sheet has a surface permanence of at least 70% on each side. However, none of the references cited above disclose the presently recited fine concave and convex portions provided on the plateau-forming top surface of the convex portion of the interlayers disclosed therein.

Applicant respectfully submits that, contrary to the position set forth in the Office Action, Calhoun does not remedy the above deficiencies in Hoagland, Mortlemans, and Hopfe because

(1) there is no reason to alter the interlayers in Hoagland, Mortelmans, or Hopfe in view of the teachings of Calhoun, which relates to an adhesive and which does not relate to the deaeration of the adhesive therein; and (2) even if the teachings of the cited references were combined, a person having ordinary skill in the art would not arrive at the presently claimed invention.

First, there is no reason to alter the interlayers in Hoagland, Mortelmans, or Hopfe, given the teachings of Calhoun, which relates to an adhesive. Calhoun discloses a pattern formed on the top surface of an adhesive (see, e.g., Figures 1c, 3d, and 4d of Calhoun, referred to in the Office Action). The adhesive in Calhoun does not correspond to the presently recited interlayer. Rather, in Calhoun, if anything was deemed to correspond to the presently recited interlayer, it would be the carrier disclosed therein (see, e.g., the passage beginning at column 3, line 50), and not the adhesive. Accordingly, Calhoun does not teach a person having ordinary skill in the art to alter the plateau-forming top surface of the convex portion of an interlayer as presently claimed.

Accordingly, Applicant respectfully submits that the deaeration properties of the present invention are distinct from the "de-bonding properties" of Calhoun, and there is no reason to combine the teachings of Calhoun with the other cited references in the manner set forth in the Office Action. In addition, Applicant respectfully submits that a "bonding and de-bonding" property is distinct from the deaeration property of the present invention, and Applicant respectfully submits that it would not be obvious to use the patterned adhesive, which gives good "bonding and de-bonding" properties to the adhesive of Calhoun, in order to obtain the deaeration properties of the present invention. Calhoun discloses that the textured adhesive

therein is beneficial because it improves the "bonding and de-bonding properties" of the adhesive (see the abstract of Calhoun). For example, Example 1 in Calhoun discloses that Figure lc, relied upon in the Office Action, describes the "debonded" tape in Calhoun. Applicant also notes that Figures 3d and 4d also describe as "debonded" tape.

Second, Applicant respectfully submits that even if the teachings of the cited references were combined, a person having ordinary skill in the art would not arrive at the presently claimed invention. As mentioned above, Calhoun discloses a patterned adhesive layer, whereas each of the other cited references discloses an interlayer. Therefore, even if the cited references were to be combined, a person having ordinary skill in the art would not arrive at the presently claimed invention because there is no teaching in the cited prior art with respect to providing fine concave and convex portions on the plateau-forming top surface of the convex portion of an interlayer, as presently claimed. Accordingly, Applicant respectfully submits that even in view of the teachings of the cited prior art, a person having ordinary skill in the art would not arrive at the presently claimed invention.

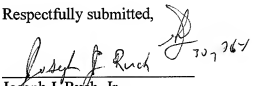
In view of the above, Applicant respectfully submits that the presently claimed invention is neither anticipated by nor rendered obvious by Hoagland, Mortelmans, or Hopfe in view of Calhoun. Applicant and therefore respectfully requests reconsideration and withdrawal of this § 103 rejection

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby earnestly solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local Washington, DC, telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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